AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A signal processing system ~~having~~ comprising at least two independent processing channels, a plurality of optical fibres with their one ends oriented to receive electromagnetic radiation, and couplers interconnecting the other ends of ~~the~~ said optical fibres in parallel ~~such that~~ whereby electromagnetic radiation transmitted by ~~the~~ said optical fibres ~~will be~~ is coupled together and then directed into each of the independent processing channels.

2. (currently amended) A signal processing system, according to Claim 1, in which at least one of ~~the~~ said independent processing channels includes a processing board with an output to a signal detector.

3. (currently amended) A signal processing system, according to Claim 2, in which at least one of ~~the~~ said processing boards includes ~~electrical and/or optical~~ signal processing components~~.~~ selected from the group comprising electrical and optical signal processing components.

4. (currently amended) A signal processing system, according to ~~any preceding claim,~~ Claim 1, in which at least one of ~~the~~ said independent processing channels

is arranged to transmit the electromagnetic radiation in sequence to a signal detector input.

5. (currently amended) A signal processing system, according to Claim 4, in which another of said independent processing ~~channel~~ channels is arranged to transmit the electronic radiation in sequence to another signal detector input, and ~~the~~ said independent processing channels incorporate different optical delays to minimise any range/position ambiguity.

6. (currently amended) A signal processing system, according to Claim 1, in which one of ~~the~~ said independent processing channels is arranged to transmit electromagnetic radiation in sequence to a signal detector unit, and another of said independent processing ~~channel~~ channels is arranged to transmit the electromagnetic radiation to a processing board configured to assess the range and depth of a target.

7. (currently amended) A signal processing system, according to ~~any preceding claim~~ Claim 1, in which two of said independent processing channels contain different signal detectors.

8. (currently amended) A signal processing system, as in ~~any preceding claim~~ Claim 1, in which at least one of ~~the~~ said independent processing channels is arranged to feed signals into at least one other independent processing channel.

Claim 9 cancelled.